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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/378,819 01/27/95 ENOKIDA

M 35.C10457

HONG, S EXAMINER

24M1/1127

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ART UNIT PAPER NUMBER

2412

DATE MAILED: 11/27/95

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 1-27-95 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-39 are pending in the application.
Of the above, claims NONE are withdrawn from consideration.
2. ☐ Claims have been cancelled.
3. ☐ Claims are allowed.
4. ☒ Claims 1-39 are rejected.
5. ☐ Claims are objected to.
6. ☐ Claims are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☒ The corrected or substitute drawings have been received on 1-27-95. Under 37 C.F.R. 1.84 these drawings are ☒ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

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Part III DETAILED ACTION

1. This action is responsive to communications: application, filed 1/27/95.
2. Claims 1-39 are pending in the case. Claims 1, 5, 14, 24, 29, and 36-39 are independent claims.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119, which papers have been placed of record in the file.

Drawings

4. The drawings are objected to because Figures 5 and 6 are not designated by a legend such as "Prior Art". The legend is necessary in order to clarify what applicant's invention is. MPEP § 608.02(g). Correction is required.

Specification

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

6. Applicant is reminded of the proper content of an Abstract of the Disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains.

If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure.

If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement.

In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof.

If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following: (1) if a machine or apparatus, its organization and operation; (2) if an article, its method of making; (3) if a chemical compound, its identity and use; (4) if a mixture, its ingredients; (5) if a process, the steps. Extensive mechanical and design details of apparatus should not be given.

Examiner requests that Applicant revise the Abstract to more clearly describe Applicant's invention.

7. A substitute specification in proper idiomatic English and in compliance with 37 C.F.R. § 1.52 (a and b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter. Such statement must be a verified statement if made by a person not registered to practice before the Office. Furthermore, Examiner

requests that Applicant review the application carefully for informalities including grammatical errors.

Claim Objections

8. Claims 2 and 7 are objected to because of the following informalities: in claim 2, line 2, "a communication" is grammatically incorrect; in claim 14, line 12, "pays an importance ...than said first encoding means" is awkward and grammatically incorrect. Appropriate correction is required. Since the claims in general are awkward and confusing, Examiner respectfully requests that Applicant take time to carefully review the claims and correct the informalities and awkward language.

Claim Rejections - 35 USC § 112

9. Claims 8, 10 and 12 are rejected under 35 U.S.C. § 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter of a previous claim. The limitations in claims 8, 10, 12 are same as those in claim 7, 9, 11, respectively.

10. Claims 14-23, 18 and 35 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims that are noted above as being rejected but not specifically cited below are rejected based on their dependency on rejected independent claims.

As per independent claim 14:

Line 4, the phrase "by a coding method which pays an importance to a speed" is vague and indefinite. It is unclear what the phrase means.

Line 11, the phrase "...method which pays an importance to a compression ratio than said first encoding means" is vague and indefinite. The phrase is too confusing and difficult to understand.

As per dependent claim 18,

Line 2, the use of "executes a coding processing to the input of said animating image data in a real-time manner" is vague and indefinite, as to what this limitation is saying.

As per dependent claim 35:

Line 5, the use of "a broken link" is vague and indefinite. It is unclear what it is.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the

invention was made, owned by the same person or subject to an obligation of assignment to the same person.

12. Claims 1-4 and 24-28 rejected under 35 U.S.C. § 103 as being unpatentable over Sugiyama, U.S. Pat. No. 5,315,326, 5/94 in view of Nguyen, U.S. Pat. No. 5,404,437, 4/95 (filed 11/92).

As per independent claim 1, Sugiyama discloses **decoding encoded animating image data** (col.4, line 9, "...detecting ...pixel of an image ...where interframe or interfield processing is carried out"); **intraframe coding and storing** (col.4, lines 11-19; and col.3, lines 48-53, "independently coding respective frames ...so that respective frames can be independently handled"). However, Sugiyama does not disclose an editing means for arbitrary edition. That feature is shown by Nguyen (col.2, lines 3-11, "An animation sequence generator decompresses and stores information representing the pixel data ...synchronizes the animation sequence..."). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have used Nguyen's apparatus to edit the animation data of Sugiyama, since Sugiyama has pointed out that intraframe coded images "mak[e] it possible to easily carry out ... random access, high speed search or image editing in media of the storage system (col.3, lines 54-57)." The limitation of **coding the edited frame** would have been obvious to one of ordinary skill in the art at the time the invention was made, because if the edited images were to be stored away for later use, the images had to be stored in a compressed format (such as shown by Sugiyama) to save memory space.

As per dependent claim 2, Sugiyama discloses that the **animating image data is transmitted from an external apparatus by communication** (Fig.4, item 17 shows that the data come from external apparatus).

As per dependent claim 3, Nguyen discloses **an edition in a time base direction between frames** (col.7, line 17-20, "a timing diagram showing synchronization ..."). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined the teaching of Sugiyama and Nguyen, since the image data of Sugiyama also represented animation frames that are organized in time based sequences.

As per dependent claim 4, Sugiyama discloses **displaying the decoded image data** (in Abstract, line 3, "...image editing necessary ...in a processing system for ...displaying ...").

Independent claim 24 recites basically the same limitations as those in claim 1, and the similar rejections are rejected under the same rationale. In addition, claim 24 cites **decoding interframe coded image data in parallel with encoding intraframe image data**. First, parallel processing and multi-tasking were well known technique in the art. Given that, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have performed the encoding and decoding in parallel, since when compressed data were decoded, the size of data increase greatly. Therefore, if all image data were decoded

before they were encoded, the memory required to store the data would have been unpractically large.

Dependent claim 25 contains substantially similar limitation as claim 4, and is similarly rejected.

Dependent claim 26 recites substantially similar limitation as the one in claim 1, and is similarly rejected.

As per dependent claim 27, the means for accumulating animating images would have been obvious to one of ordinary skill in the art at the time the invention was made, since animation required multiple frames, and Sugiyama explained that interframe coding was useful in reducing the size of the data (col.3, line 14, "an interframe predictive coding ...the efficiency is high").

As per dependent claim 28, Sugiyama does not disclose a computer program. But, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have implemented Sugiyama's apparatus with computer program, since one of ordinary skill in the art would have known that software implementation would have been less expensive.

13. Claims 5-13 are rejected under 35 U.S.C. § 103 as being unpatentable over Sugiyama, U.S. Pat. No. 5,315,326, 5/94 in view of Normille et al., U.S. Pat. No. 5,267,334, 11/93 and Nguyen, U.S. Pat. No. 5,404,437, 4/95 (filed 11/92).

As per independent claim 5, Normille discloses **detecting an intraframe** (col.7, line 59, "detecting a first scene ...known, in a preferred embodiment, as a ...intra frame"); and **decoding the image and a predetermined number of frames after the detected image** (col.7, line 66, "generating at least one intermediate compressed frame...containing difference information from the first image for at least one image following the first image in time in the sequence of moving images"), but does not disclose **arbitrary editing and encoding the edited frame images**. However, those limitations are disclosed by Nguyen in claim 1 and its rationale is incorporated herein. Further, Normille does not explicitly disclose that the images are decoded. But, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have decoded the images, since Nguyen showed the displaying of the images, which would have required the images to be decoded. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined the teaching of Normille and Nguyen, since Normille's apparatus linked the frames to create forward and backward play (col.8, lines 9-16), and Nguyen provided the apparatus for performing the frame edition.

As per dependent claim 6, Normille and Nguyen do not disclose that the intraframe encoded images after edited is recoded and stored in intraframe coding. However, this would have been an obvious step to one of ordinary skill in the art, since if the frames were not displayed at the time, they should have been stored in the compressed format to reduce storage requirement.

Dependent claims 7 and 8 recite substantially similar limitations as those in claim 2, and are similarly rejected under the same rationale.

Dependent claims 9 and 10 recite substantially similar limitations as those in claim 3, and are similarly rejected under the same rationale.

As per dependent claims 11 and 12, Nguyen discloses decoding **from the intraframe just before the frame to be edited** (decoding the intraframe is shown in the rejection of claim 1, which is herein incorporated; and in Nguyen, col.2, line 3, "...generator decompresses and stores ..." shows the decoding before the editing.). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated Nguyen's feature of decoding just before editing, since decoded data that were not to be used right away would have taken excessive memory storage.

Dependent claim 13 recites substantially similar limitations as those in claim 4, and is similarly rejected under the same rationale.

14. Claims 14-23 are rejected under 35 U.S.C. § 103 as being unpatentable over Laney et al., U.S. Pat. No. 5,467,134, 11/95 (filed 12/92) in view of Nguyen, U.S. Pat. No. 5,404,437, 4/95 (filed 11/92).

As per independent claim 14, Laney disclose means for encoding animating data with both a coding method that improves animation speed and a method that improves compression ratio (Fig.2, and col.8, lines 17-68); but does not disclose the editing means. The editing means is disclosed by Nguyen (as explained in claim 1) and the rejection is herein incorporated. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Nguyen's editing apparatus to edit images and compress them using Laney's method, since Laney has pointed out that "using both intraframe and interframe compression techniques (col.2, line 10)" can "satisfactorily compress video, or for playback at a given data rate (col.2, line 4)."

As per dependent claims 15 and 16, Laney discloses both interframe coding and intraframe coding, but performed in reverse order (explained in the rejection of claim 14). However, it would have been obvious to a person of ordinary skill in the art at the time the

invention was made to have performed both coding at reverse order, since it would have been functionally equivalent that provided same benefits.

As per dependent claim 17, **the edition on a frame image unit** is shown by Nguyen (col.7, lines 7-16). The rationale for combining the references are disclosed in claim 14, and is incorporated.

As per dependent claim 18, although the limitation is vague and indefinite (as explained in the 35 USC 112 rejection above), Applicant seems to be claiming the encoding the animation data at a real-time rate. Although it is unclear what Applicant considers to be real-time, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have encoded the input data in real-time (which could have been done with a faster processor), since receiving and storing uncompressed data for all frames before compressing them would have required excessive amount of memory.

As per dependent claims 19 and 22, Nguyen discloses **executing the edition in accordance with the instruction from the display** (Fig.6 shows the graphical user interfaces with which the instructions are given.). The rationale for combining the references are disclosed in claim 14, and is incorporated.

As per dependent claims 20 and 21, Nguyen discloses **animation images displayed in multi-screen displays that are obtained by reducing the frame images** (FIG.9 and col.9, lines 15-30).

As per dependent claim 23, Laney does not explicitly state that the encoding methods are computer programs. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have implemented Laney's encoding steps in computer programs, since Laney disclosed the computer which is used to display the animation (col.1, lines 18-23).

15. Claims 29-34 are rejected under 35 U.S.C. § 103 as being unpatentable over Sugiyama, U.S. Pat. No. 5,315,326, 5/94 in view of Laney et al., U.S. Pat. No. 5,467,134, 11/95 (filed 12/92) and Nguyen, U.S. Pat. No. 5,404,437, 4/95 (filed 11/92).

Independent claim 29 is basically an apparatus that combines the limitations of independent claims 1 and 14, and is similarly rejected. In other words, by employing both intraframe and interframe compression techniques, the animation could have been produced that can satisfy both compression and playback rate (as explained in claim 14).

Dependent claims 30, 33, 34 contain substantially same limitations as claims 23, 20, 21, respectively, and are similarly rejected under the same rationale.

As per dependent claim 31, Nguyen discloses a cutting process in editing (col.7, lines 5-16 describe a cut and paste routine on the images, as produced by the overlay.).

As per dependent claim 32, Sugiyama, Laney, and Nguyen do not explicitly state that the interframe coding uses MPEG coding. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have used MPEG coding for the interframe coding, since Applicant disclosed in the Background of Invention (page 1), that MPEG coding was an international standard for motion video interframe compression.

16. Claims 35-39 are rejected under 35 U.S.C. § 103 as being unpatentable over Sugiyama, in view of Laney et al., Normille et al., and Nguyen.

As per dependent claim 35, Sugiyama, Laney, and Nguyen do not explicitly state that the frames created are created without a broken link. However, Normille disclosed that the frames are linked without the broken link (cols.7 and 8, in Summary and Objects of the Invention). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated the teaching of Normille, since Normille explained that the linked frames enabled the reverse play and forward play in animation.

Independent claims 36-39 are for method performed by the apparatus in claims 1, 5, 14, 24, respectively, and are similarly rejected under the same rationale.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,408,328 Boliek et al. 4/95 (filed 9/93)

Compressed image virtual editing system.

5,442,400 Sun et al. 8/95 (filed 4/93)

Error concealment apparatus for MPEG-like video data.

5,387,938 Fukuda et al. 2/95 (filed 12/93)

Adaptive interframe/intraframe block coding method and apparatus.

5,461,679 Normile et al. 10/95 (filed 5/93)

Method and apparatus for encoding/decoding image data.

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18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Hong whose telephone number is (703) 308-5465. The examiner can normally be reached on Monday-Friday from 8:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon, can be reached on (703) 305-9701. The fax phone number for this group is (703) 305-9724.

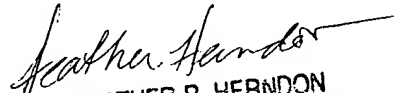
Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Stephen Hong

Patent Examiner

November 16, 1995



HEATHER R. HERNDON
SUPERVISORY PATENT EXAMINER
GROUP 2400